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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/577,233

04/26/2006

Jan Tuma

51101

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1609 7590 10/06/2008

ROYLANCE, ABRAMS, BERDO & GOODMAN, L.L.P.
1300 19TH STREET, N.W.
SUITE 600
WASHINGTON,, DC 20036

EXAMINER

ABRAHAM, AMJAD A

ART UNIT

PAPER NUMBER

4151

MAIL DATE

DELIVERY MODE

10/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/577,233	Applicant(s) TUMA, JAN	
	Examiner AMJAD ABRAHAM	Art Unit 4151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04/26/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/26/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. **The specification lists WO 03/095190 and it is not listed on the IDS.**

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 4-5, 7, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Tuma (DE 100 39 937 A1 made of record by the applicant), whose English equivalent is US Patent No. 7,198,743 which is relied upon by examiner to make the following rejections.

4. Regarding claim 1, Tuma teaches a process for creating adhesion elements **(Method for producing an adhesive closing element)** on a substrate material

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(plastic strip) by using at least one plastic material which is introduced into at least one shaping element **(Shaping element consists a pressure tool and a molding tool)**, **(See Figure 1 and Column 3 line 62 to column 4 line 30, Figure 1 shows a substrate (plastic strip) having adhesion elements molded onto the substrate)** characterized in that in this way adhesion elements with flared ends **(See Figures 1 and 3 showing an adhesion element with a flared end)** are formed with adhesion which is accomplished predominantly by means of van-der-Waals forces.

- a. A Flared end has been construed by examiner to mean an end which gradually becomes wider at one end. **(See attached Concise Oxford Dictionary 10th Edition stating that flared means "gradually become wider at one end)**. Clearly, Tuma discloses an adhesion element with a flared end as the adhesion element in figure 3 clearly becomes wider as it gets to the end.
 - b. In addition, it is inherent that all molecules have van-der-Waals forces which universally have the ability to adhere plastic materials to one another by the attraction of protons in one to electrons in another.
5. Regarding claim 2, Tuma teaches wherein plastic materials can be inorganic and organic elastomers, especially polyvinyl siloxane, and addition-crosslinking silicone elastomers, also in the form of binary systems and acrylates. **(See column 1 lines 20-25 and Column 2 lines 30-35, discussing the use of a moldable plastic material which is elastically very flexible).**
- c. The examiner has given the use of "especially" by applicant no patentable weight as it does not narrow or limit the subject matter claimed. In light of this, it

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is implicit that when making adhesion elements that an elastomers would be one of the materials used to make a product that is meant to be elastic or flexible.

6. Regarding claim 4, Tuma teaches wherein as the respective shaping element a drum-shaped or strip-shaped screen **(See figure 1 showing a drum shaped screen and Column 4 lines 13-30, discussing the use of a screen with individual mold cavities)**(11) is used which is provided with at least 10,000, but preferably with 16,000 mold cavities (12) per cm² **(See Column 3, lines 4-41, disclosing that the density of the interlocking (adhesion) means per cm² of backing material can be dramatically increased if one uses micro-adhesive closures. While Tuma only claims a density of mold cavities that number 500 per cm² it does disclose that the use of micro-adhesives will dramatically increase the density of mold cavities. Because of this it would be conventional in the art for an engineer to alter the size of the adhesion elements in order to increase or decrease the amount of mold cavities per cm².)**

7. Regarding claim 5, Tuma teaches wherein the respective mold cavity is made in the manner of a hyperboloid. **(See column 3, lines 30-38, discussing the fact that it is advantageous to make the mold cavities and interlocking means as rotationally symmetrical parts, especially in the form of hyperboloids).**

8. Regarding claim 7, Tuma teaches wherein the flared ends of the adhesion elements are made essentially flat or slightly convex. **(See figure 3, showing an adhesion element with an essentially flat or slightly convex flared end).**

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9. Regarding claim 9, Tuma teaches wherein for crosslinkable plastic materials they are re-crosslinked with or after preparation of the adhesion elements, for example with UV light. **(This step is inherent as it is conventional in the art to harden the formed material by curing the formed material.)**

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tuma (DE 100 39 937 A1 made of record by the applicant), whose English equivalent is US Patent No. 7,198,743 in view of George et al. (USP No. 7,018,496).

13. Regarding claim 3 Tuma teaches the use of a moldable plastic that is formed under shear stress but it does not specifically teach wherein the plastic material used at the time is thixotropic and has a viscosity of 7,000 to 15,000 mPas measured with a

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rotary viscosimeter, but preferably has a value of roughly 10,000 mPas at a shear rate of 10 1/sec.

d. However, George discloses wherein the plastic material used at the time is thixotropic and has a viscosity of 7,000 to 15,000 mPas measured with a rotary viscosimeter, but preferably has a value of roughly 10,000 mPas at a shear rate of 10 1/sec. **(See column 13, lines 20-30, disclosing that a thixotropic agent can be added to thermoplastic in order to alter the flexibility of the composition. George does not specifically state the viscosity range in claim 3. However, it would have been obvious to one having ordinary skill in the art at the time of invention to adjust the viscosity of the plastic molding compound in order to create a molding material that is very flexible, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).**

e. Tuma and George are analogous art because they are from the same field of endeavor which is to form plastic adhesive fasteners which are flexible. At the time of invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Tuma and George before him or her, to modify the teachings of Tuma to include the teachings of George because George teaches the use of a Thixotropic material to alter the flexibility of the plastic molding material. The motivation for doing so would have been to alter the flowability characteristics of a plastic molding material. Therefore, it would have

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been obvious to combine Tuma with George to obtain the invention as specified in claim 3 because would have been motivated to locate the best possible material that would impart flexibility onto the final product.

14. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tuma (DE 100 39 937 A1 made of record by the applicant), whose English equivalent is US Patent No. 7,198,743 in view of Price et al. (US PG Publication 2003/0124303).

15. Regarding claim 6 Tuma does not specifically teach wherein the plastic material is one with a contact angle which has at least a value of greater than 60 degrees, preferably greater than 70 degrees, due to the surface energy for wetting with water.

f. However, Price discloses wherein the plastic material is one with a contact angle which has at least a value of greater than 60 degrees, preferably greater than 70 degrees, due to the surface energy for wetting with water. **(See paragraph [0108] discussing that fibers having contact angles less than 90 degrees are designated “wetable”, while fibers having contact angles greater than 90 degrees are designated “non-wetable”).**

g. Tuma and Price are analogous art because they are both from the same field of endeavor which is creating an adhesion device that can be reused. At the time of the invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Tuma and Price before him or her, to modify the teachings of Tuma to include the teachings of Price because one would have wanted the adhesive surface to be reusable and this can be done by altering the surface energy available for wetting. The motivation would

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have been to extend the usable life of the adhesive element. Therefore, it would have been obvious to combine Tuma with Price to obtain the invention as specified in claim 6.

16. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tuma (DE 100 39 937 A1 made of record by the applicant), whose English equivalent is US Patent No. 7,198,743 in view of Full et al. (WO 01/49776 made of record by the applicant), whose English equivalent is US Patent No. 7,229,685. Examiner has relied on the English equivalences to make the following rejection.

17. Regarding claim 8 Tuma does not explicitly teach wherein the respective adhesion element is formed from a stem part (17) with a height from 50 μm to 150 μm , preferably of roughly 90 μm , and a diameter from 10 μm to 40 μm , preferably of roughly 30 μm , and wherein the flared ends as the head parts (18) on the stem parts (17) have a diameter from 15 μm to 70 μm , preferably of roughly 50 μm .

h. However, Full discloses wherein the respective adhesion element is formed from a stem part (17) with a height from 50 μm to 150 μm , preferably of roughly 90 μm , and a diameter from 10 μm to 40 μm , preferably of roughly 30 μm , and wherein the flared ends as the head parts (18) on the stem parts (17) have a diameter from 15 μm to 70 μm , preferably of roughly 50 μm .

(See claims 10-17, showing that the height and width of the adhesion element 1 to 500 micrometers).

i. Tuma and Full are analogous art because they are in the same field of endeavor which is to create an adhesion element onto a substrate using

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microstructures. At the time of invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Tuma and Full before him or her, to modify the teachings of Tuma to include the teachings of Full because full shows the application of a large number of small microstructures to create an adhesion element. The motivation for doing so would have been to fit the most mold cavities per cm² in order to create a stronger adhesion effect. Therefore, it would have been obvious to combine Tuma with Full to obtain the invention as specified in claim 8 because would have been motivated to use small adhesion elements to create a substrate with a significant number of mold cavities.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The reference Seth et Al. (US PG Publication 2004/0258902) which discloses a polymer foam with adhesive microstructures. The reference Poulakis et al. (US 2004/0134045) which discloses a method for producing a touch and close fastener element which discloses a flat flared stem. The article by Newscientist.com (*Gecko Tape will stick you to ceiling* by Will Knight) discloses flared shaped adhesion setae that cause an adhesive effect do to van der Waals forces. The reference Fearing et al. (USP No. 6,872,439) which discloses an adhesive microstructure. The reference Tuma (US PG Publication 2004/0020591) which discloses a method for producing an adhesive element by shaping a substrate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMJAD ABRAHAM whose telephone number is (571)270-7058. The examiner can normally be reached on Monday through Friday 8:00 AM to 5:00 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on (571) 272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AAA

/Angela Ortiz/

Supervisory Patent Examiner, Art Unit 4151